

AMENDMENTS TO THE CLAIMS

Please cancel claim 4, amend claim 1 and add new claims 5-9 as follows:

1. (Currently Amended) A method of manufacturing a flash memory device, comprising ~~the steps of~~:

performing an ion implantation for controlling a threshold voltage on a semiconductor substrate;

performing a spike annealing for controlling a doping concentration and a doping profile of an implanted dopant, wherein the spike annealing is performed under NH₃, H₂, or N₂ atmosphere at a temperature in the range of 900°C to 1,100°C with a heating rate of 100°C/sec to 250°C/sec;

forming a device isolation film for isolating an active area and a field area on the semiconductor substrate;

forming a gate electrode in which a tunnel oxide film, a floating gate electrode, a dielectric film, and a control gate electrode are deposited on the active area; and

performing an ion implantation for forming junctions on the semiconductor substrate in both sides of the gate electrode to form a DDD junction structure.

2. (Original) The method of manufacturing a flash memory device according to claim 1, wherein the ion implantation for controlling a threshold voltage is performed by using a p-type dopant with an ion implantation energy of 5 KeV to 50 KeV and a dose of 1E11 ion/cm² to 1E13 ion/cm².

3. (Original) The method of manufacturing a flash memory device according to claim 2, wherein BF₂ is used as the p-type dopant.

4. (Cancelled)

5. (New) A method of manufacturing a flash memory device, comprising:
- performing an ion implantation for controlling a threshold voltage on a semiconductor substrate;
 - performing a spike annealing for controlling a doping concentration and a doping profile of an implanted dopant, wherein the spike annealing is performed under NH_3 , H_2 , or N_2 atmosphere;
 - forming a device isolation film for isolating an active area and a field area on the semiconductor substrate;
 - forming a gate electrode in which a tunnel oxide film, a floating gate electrode, a dielectric film, and a control gate electrode are deposited on the active area; and
 - performing an ion implantation for forming junctions on the semiconductor substrate in both sides of the gate electrode to form a DDD junction structure.
6. (New) The method of manufacturing a flash memory device according to claim 1, wherein the ion implantation for controlling a threshold voltage is performed by using a p-type dopant with an ion implantation energy of 5 KeV to 50 KeV and a dose of $1\text{E}11 \text{ ion/cm}^2$ to $1\text{E}13 \text{ ion/cm}^2$.
7. (New) The method of manufacturing a flash memory device according to claim 6, wherein BF_2 is used as the p-type dopant.
8. (New) The method of manufacturing a flash memory device according to claim 6 wherein the spike anneal is carried out at a temperature in the range of 900°C to $1,100^\circ\text{C}$ with a heating rate of 100°C/sec to 250°C/sec .
9. (New) The method of manufacturing a flash memory device according to claim 7 wherein the spike anneal is carried out at a temperature in the range of 900°C to $1,100^\circ\text{C}$ with a heating rate of 100°C/sec to 250°C/sec .

10. (New) The method of manufacturing a flash memory device according to claim 6 wherein the spike anneal is carried out at a temperature in the range of 900°C to 1,100°C with a heating rate of 100°C/sec to 250°C /sec.